RESEARCH PROBLEM STATEMENT

Problem Title: Pavement Distress in 9.5mm Asphalt vs 12.5mm Asphalt on thin overlays **No.:06.02-06**

Submitted By: Lloyd Neeley / Norton Thurgood **E-mail:lneeley@utah.gov** **nthurgood@utah.gov**

1. Briefly describe the problem to be addressed:

Our field experience suggests that our 3/8" asphalt with high grade AC10 oil is holding up better under heavy truck loading than ½" asphalt with 64-34 PG oil, when placed at 1.5 inches to 2 inches. Both asphalts have been placed on I-84 in Western Box Elder County at 1.5-2 inches and the 3/8" had less rutting and shoving after 1-3 years.

Strategic Goal: ☒ **Preservation** ☐ **Operation** ☐ **Capacity** ☐ **Safety** (Check all that apply)

2. List the research objective(s) to be accomplished:

1. Can these findings be duplicated?

2. Should we be using strictly 3/8" with high-grade AC10 for thin overlay, including betterments?

3.

3. List the major tasks required to accomplish the research objective(s):

		Estimated person-hours
1.	Mill selected section for constant starting condition via contract	$20,000
2.	Fund testing and analysis to evaluate existing condition	40
3.	Pave in consecutive sections using both asphalts in different areas (Region 1 budget)	0
4.	Monitor sections for distress (UDOT Research and Region 1 Pavement Engineer)	100
5.	Write Report	20

4. Outline the proposed schedule (when do you need this done, and how we will get there):

Mill and Pave sections in summer of 2006. Record distress 3 times in 2007 and 3 times in 2008.

5. Indicate type of research and / or development project this is:

Large: ☒ **Research Project** ☐ **Development Project**
Small: ☐ **Research Evaluation** ☐ **Experimental Feature** ☐ **New Product Evaluation** ☐ **Tech Transfer Initiative :** ☐ **Other**

6. What type of entity is best suited to perform this project (University, Consultant, UDOT Staff, Other Agency, Other)?

UDOT Region 1 w/ support from UDOT Research

Page 2

7. What deliverable(s) would you like to receive at the end of the project? (e.g. useable technical product, design method, technique, training, workshops, report, manual of practice, policy, procedure, specification, standard, software, hardware, equipment, training tool, etc.)
Performance comparison report of the two oil – aggregate size combinations.

8. Describe how will this project be implemented at UDOT.

Barry Sharp and Wayne Felix will create work plan.

Wayne Felix and Norton Thurgood will coordinate initial evaluation and construction.

Wayne Felix and Barry Sharp will analyze distress data and create report.

9. Describe how UDOT will benefit from the implementation of this project, and who the beneficiaries will be.

Initial comparison which can lead to better decisions and perhaps set the stage a more advanced analysis in the future, since this will compare combinations and not specific components.

10. Describe the expected risks, obstacles, and strategies to overcome these.

11. List the key UDOT Champion of this project (person who will help Research steer and lead this project, and will participate in implementation of the results): Norton Thurgood

12. Estimate the cost of this research study including implementation effort (use person-hours from No. 3): $35,000

13. List other champions (UDOT and non-UDOT) who are interested in and willing to participate in the Technical Advisory Committee for this study:

Name	Organization/Division/Region	Phone	Attended UTRAC?
A) Wayne Felix	Region One Pavement Engineer	801-620-1608	Yes
B) Brent Stokes	Region One Station Supervisor	435-2794327	Yes
C) Kevin Griffin	Region One Operations	801-620-1600	Yes
D) Spencer Guthrie	Brigham Young University / Civil Engineering	801-422-3864	Yes
E)			
F)			
G)			

14. Identify other Utah agencies, regional or national agencies, or other groups that may have an interest in supporting this study:

LeGrand Johnson Company

Jack B. Parson Companies

UDOT Central Materials

UDOT Central Maintenance